

Electronic Data Collection for Empowering New Generations to Improve Nutrition and Economic opportunities (ENGINE)

Tufts University, in partnership with Jimma and Hawassa Universities is using electronic data collection for ENGINE's two operational research cohort studies: Agriculture Nutrition Panel study and Birth Cohort Study. The data collection for the studies is being conducted in the Oromia region for the Birth Cohort and Oromia and SNNP regions for the Agriculture Nutrition Panel survey.

This is how the innovative electronic data collection works. Open Data Kit (*ODK*), a free and open-source set of tools allows mobile data collection solutions to be installed on all tablets. ODK provides an out-of-the-box solution for users who need to build a data collection form or survey, collect the data on a mobile device and send it to a server and aggregate the collected data on a server to extract it in useful formats. The data collection team is then trained on how to use the tablet, ODK and Connectify Hotspot. Connectify Hotspot is a program which enables people to share their computer's Internet connection with other devices through Wi-Fi and can be used with various internet connection tools including Wi-Fi, EVDO, CDMA, cable, 3G, 4G and even smart phones. After creating a hotspot, research supervisors will check the finalized electronic form, connect the tablet to a network and send the data to the server which is located at Tufts University, Boston, USA. The data manager who is based in Jimma, Ethiopia, will regularly check the data on the server and run data quality checks.

The most important benefit of the electronic data collection is that it eliminates data entry time on a computer; both for data collection and entry, which is registered automatically at the point of collection on the tablet. Furthermore, the ODK controls data quality as mandatory questions that must be answered can be installed in order to swipe to next page, a 'constraint' number can be put on age so that the number for age does not surpass 149 years .i.e. if the enumerator enters 150,



Enumerator using tablet to collect data.

the ODK will not allow the enumerator to swipe to the next page. It also skips a question based on the response to a previous question, allows recording the global positioning system (GPS) coordinate. Moreover, electronic data collection eliminates the need to carry hundreds of pages of papers, reducing cost of paper making it a green technology as all that is required is a simple seven inch tablet.

By using tools like ODK, Connectify and tablets to collect data, data collection is made simpler.

